

Amendment and Response

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Serial No.: 10/721,698

Confirmation No.: 6282

Filed: November 25, 2003

For: HEAT EXCHANGE APPARATUS, SYSTEM, AND METHODS REGARDING SAME**Remarks**

The Final Office Action mailed July 23, 2007 has been received and reviewed. This amendment and response is provided in response to the Final Office Action and in conjunction with the Request for Continued Examination filed herewith. Claims 1, 14, and 28 have been amended. No further claims have been canceled herein. Therefore, the pending claims are claims 1-8, 10-18, 20-31, and 33-39. However, claims 10-12, 20-27, 33-35, and 37-39 have been withdrawn from consideration in view of a species restriction. As such, the remarks provided herein are with respect to claims 1-8, 13-18, 28-31, and 36. Reconsideration and withdrawal of the rejections are respectfully requested in view of the amendments and remarks provided herein.

Summary of Examiner Telephone Interview

Applicant's representative discussed the above-identified application with the Examiner during the week of 22 October 2007. Particularly, Applicant requested that the Examiner withdraw the requirement for contacting Mr. Lebo and Mr. Vasile as Applicant has no manner of substantiating the truthfulness of information obtained therefrom, and that the inquiry went beyond that which is a reasonable inquiry given the information previously obtained from use of the Wayback Machine as discussed herein. No agreement was reached.

Applicant's Remarks on Comments by Examiner re:**Applicant's Response of May 16, 2007****First Matter**

The Examiner continues to allege that Applicant has not made a reasonable inquiry regarding Exhibit E-2. The Examiner alleges that Exhibit E-2 shows "the GFX Model G2-12 is used in a vertical water main in a flooded condition for providing instant hot water in a high-rise building (Exhibit E-2, page 2)."

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To satisfy Examiner's request for additional date information regarding Exhibit E-2, Applicant performed research regarding a possible first publication date using the "Internet Archive Wayback Machine" for the website recited as "gfxtechnology.com." As previously submitted in the Response of May 16, 2007, it was discerned that the information of Exhibit E-2 was available some time between the web site revision of August 13, 2002 and the web site revision of August 21, 2002.

The Examiner indicates that pursuant to "Brasseler v. Stryker, 60 USPQ2d, 1482 (Fed. Cir. 2001) applicant is required to use reasonable efforts to ascertain the prior art status of the new materials related to the GFX heat exchanger. . . ." As indicated above, Applicant has used reasonable efforts to discern that the information of Exhibit E-2 was available on the web site some time between the web site revision of August 13, 2002 and the web site revision of August 21, 2002. Applicant knows of no other publication of such information.

However, the Examiner alleges that the information deduced using the "Wayback Machine" is of no use to the Examiner, as the "key question is whether or not it pre-dates November 27, 2001." From the Wayback Machine as indicated above, the information was not on the website until August of 2002. This is not prior to November 27, 2001 and, as such, it is "helpful" information.

Contrary to the Examiner's assertions that "based on applicant's own submissions that the date of publication on the GFX web page is not dispositive of its prior art status," the use of the Wayback Machine does indeed lock in at least a period of time between the date that the information was not available on the website and a date it was available. For example, if this period of time is later than the date being considered for establishing prior art (i.e., November 27, 2001 for a Section 102(b) analysis), then it can be said that at least the web site information was not prior art for this analysis. Applicant's prior submissions that had nothing to do with use of a Wayback Machine are not relevant to the analysis of whether Exhibit E-2 is prior art or not.

However, yet further, the Examiner states that "applicant has failed to make what the examiner considers reasonable attempts to ascertain if the prior art illustrated in Exhibit E-2 was

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in fact actually put into public use prior to November 27, 2001" and that the argument that "applicant is without means to substantiate the truthfulness of the information given . . . has no traction."

Applicant respectfully disagrees. Applicant believes that this goes beyond any reasonable efforts and reasonable inquiry required. Applicant cannot be expected to contact potentially adverse third parties to obtain information from them without any way of substantiating its truthfulness. Applicant is required to submit information already known, but there is no requirement to search for information that is unknown. (See MPEP Section 704.12(a)).

However, to satisfy the Examiner's curiosity, Applicant's representative contacted Mr. John Lebo on 26 October 2007 to discuss the manufacturing by Doucette Industries of the G2-12 GFX heat exchanger shown in Exhibit E-2. Mr. Lebo indicated that they were the manufacturer of heat exchangers for Mr. Vasile's company (i.e., Waterfilm Energy, Inc. as listed on Exhibit E-2) until March 2004. Mr. Lebo stated that there was no record of sales for the G2-12 GFX heat exchanger by his company. As such, an installation of such a heat exchanger as shown in Exhibit E-2 was unknown to Mr. Lebo. However, Mr. Lebo did not know whether he was the only entity manufacturing for Mr. Vasile's company.

As such, Mr. Vasile was contacted by Applicant's representative on the 30th and 31st of October, 2007 to obtain further information regarding the use of the G2-12 GFX heat exchanger. Mr. Vasile indicated that he believed that G2-12 heat exchangers manufactured by Doucette Industries were installed by others in the 2001/2002 time frame in a manner similar to that described in Exhibit E-2. However, Mr. Vasile stated that he did not participate in the sale or installation of any G2-12 heat exchangers.

As can be seen above, Applicant's have attempted to obtain factual information regarding the above at the request of the Examiner with somewhat contradictory findings (i.e., Mr. Vasile believes that G2-12 heat exchangers manufactured by Doucette Industries were sold to and installed by others, yet Mr. Lebo maintains that there are no records of sales of such G2-12 heat exchangers). Since Doucette Industries has no record of sales of such G2-12 heat exchangers,

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and Mr. Vasile did not participate in the sale or installation of G2-12 heat exchangers, it can be concluded that no G2-12 heat exchangers manufactured by Doucette Industries were sold or installed.

In view of the above information, it is requested that the information from the Wayback Machine as indicated above (i.e., that the information was not on the website until August of 2002) be considered as sufficient for purposes of satisfying the request by the Examiner.

If the Examiner would like this information in the form of a Declaration, the Examiner is requested to contact Applicants' attorney and one will be provided.

In view of such inquiry, it is more than evident that Applicant has gone far beyond any reasonable efforts and reasonable inquiry required.

Exhibit E-2

It is noted that the GFX Model G2-12 of Exhibit E-2 is not a part of a system that includes a heat pump apparatus, such as set forth in claim 1.

Further, Applicant claims priority to the provisional application filed 27 November 2002. As such, based on the information known to Applicant, Exhibit E-2 is not prior art to the pending claimed invention under 35 U.S.C. Section 102(b).

Further, Applicant asserts that the revised "DECLARATION (REVISED) OF PRIOR INVENTION TO OVERCOME CITED PATENT UNDER 37 C.F.R. §1.131" (hereinafter "Revised Declaration") filed 14 February 2006 that has been executed by the inventor clearly evidences that the inventor conceived the invention as recited in the pending claims prior to any known publication of Exhibit E-2 (e.g., August of 2002) or use of such a system described therein, that such conceived invention was communicated to Mr. Anderson as set forth in the Declaration of Laurence A. Anderson (also filed 14 February 2006), and that this conception was coupled with due diligence from prior to the effective date of the Exhibit E-2 to the filing date (i.e., 27 November 2002) of the provisional application Serial No. 60/429,160 (e.g., constructive reduction to practice) to which the present application claims priority. An element by element presentation of such evidence is provided in the Revised Declaration.

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As such, the Exhibit E-2 is not prior art under 35 U.S.C. Section 102(a) (for whatever it shows) against the rejected claims.

Yet further, Exhibit E-2 was published (August 2002) after Applicant had provided information to John Lebo (and such information was available to Carmine Vassile via cc'd e-mail) regarding the insertion of a heat exchanger according to the present invention into a municipal water main (i.e., insertion into a conduit in a flooded state) (see, for example, paragraphs 4 and 5 of the "DECLARATION UNDER 37 C.F.R. 1.131 OF TERRANCE JANSSEN REGARDING SECONDARY CONSIDERATION OF COPYING" filed 6 December 2006). In other words, Exhibit E-2 may be considered as further evidence of copying of the Applicant's invention to insert a heat exchanger in a portion of a fluid conduit that is in a flooded state (e.g., a hot water distribution system such as shown in Exhibit E-2).

Conclusion of First Matter

In view of the above, it is believed that this first matter is deemed satisfied and it is requested that it no longer be set forth in future actions by the Examiner so that prosecution of this matter can proceed, whether to issuance or appeal.

Second Matter

The Examiner continues to ask whether "the GFX heat exchangers that have a helical coil wrapped around the outside of the main pipe . . . have a flattened side wall on the helical coil as claimed in original claim 9 and are older than November 27, 2001?" As previously addressed in response to this question, GFX heat exchangers that include a flattened portion were older than November 27, 2001.

Conclusion of Second Matter

In view of the above, it is believed that this second matter is deemed satisfied and it is requested that it no longer be set forth in future actions by the Examiner so that prosecution of this matter can proceed, whether to issuance or appeal.

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Applicant respectfully traverses the Examiner's comments on copying. Applicant previously provided the information requested by the Examiner (i.e., whether any sort of confidentiality agreement was signed between GFX and Mr. Janssen in regard to Mr. Janssen's water mains heat exchanger idea).

There was no confidentiality agreement. However, Applicant asserts that whether a confidentiality agreement existed or not is irrelevant to the showing of secondary evidence which may be presented by Applicant during prosecution of the application that must be considered by the Examiner. In the present case, copying has occurred by those skilled in the art (hereinafter referred to as "GFX") only after learning of Applicant's invention and clearly many, many years after GFX technology was available. The only thing that existence of a confidentiality agreement would show is whether GFX also violated or breached provisions of such an agreement; which is irrelevant to the provision of secondary evidence of copying.

Even if the idea copied presented a new opportunity to expand the market for heat exchanger product, it was still copied whether or not a confidentiality agreement existed.

Yet further, the Examiner is setting forth requirements for what constitutes "copying" that are clearly not required to provide evidence of secondary considerations. For example, the Examiner states: "Publishing non-confidential or unprotected information on a website is not "copying". It cannot be copying until some else builds it and uses it." Applicant knows of no such requirement for presentation of "copying" evidence. Further, Examiner indicates that "copying" requires "some sort of improper motive." Applicant knows of no such requirement for presentation of "copying" evidence. As indicated herein, the weight to be accorded evidence of secondary considerations depends on the individual factual circumstances of each case and depends on the entire record.

Fourth Matter

The Examiner's comments are noted. However, as previously indicated in the response of

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16 May 2007, there are no other related co-pending applications and the Patent Application Serial No. 10/643,440 cited by the Examiner is not co-pending (i.e., it is abandoned).

Conclusion of Fourth Matter

In view of the above, it is believed that this fourth matter is deemed satisfied and it is requested that it no longer be set forth in future actions by the Examiner so that prosecution of this matter can proceed, whether to issuance or appeal.

Applicants' Remarks on Comments by Examiner re:Applicant's Response of 6 December 2007REQUIREMENT FOR DOCUMENTS

The Examiner previously required a copy of the presentation made by applicant November 13, 2002 as noted in the previously submitted declaration Exhibit B-7 entitled "Using Potable Water in Heat Exchangers" assuming that it is public knowledge. As previously stated, this was an oral presentation with no power point slides. A one page simple hand out was provided according to Applicant, along with a drawing similar to Exhibit A-1. However, due to computer problems, such materials have been lost and no accurate copies are in the possession of Applicant such that they can be made available to the Examiner. It is noted that this presentation was in November 2002 and made by Applicant. This presentation or any documents related thereto are within the year prior to the filing date of the provisional application of which the present application claims benefit and, therefore, for at least such reasons, are not prior art to the present invention.

Applicant has provided as much information regarding this request as is readily available. (see MPEP Section 704.12(b)).

Conclusion of this Requirement for Documents Matter

In view of the above, it is believed that this matter is deemed satisfied and it is requested

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that it no longer be addressed in future actions by the Examiner so that prosecution of this matter can proceed, whether to issuance or appeal.

ALLEGED LACK OF CONCEPTION PRIOR TO THE CRITICAL DATE

Applicant notes Examiner's acknowledgment of conception of the invention before the effective date of the JP 2002-30717 reference (i.e., 31 January 2002).

LACK OF DILIGENCE AS TO THE INVENTION

The Examiner continues to maintain that the Exhibits B-1 through B-9 do not show diligence for the approximate year period from alleged conception in December 2001 until late November 2002. Applicants respectfully traverse this finding of a lack of diligence by the Examiner and specifically the comments made by the Examiner. It is submitted that Applicants previous remarks concerning diligence are sufficient to establish diligence. Many of such remarks are provided below along with additional remarks.

As recited in MPEP 715.07(a), "applicant must show evidence of facts establishing diligence." As set forth in MPEP 2138.06 Section, "[t]he work relied upon to show reasonable diligence must be directly related to the reduction to practice of the invention in issue. . . . See also Scott v. Koyama, 281 F.3d 1243, 1248-49, 61 USPQ2d 1856, 1859 (Fed. Cir. 2002) (Activities directed at building a plant to practice the claimed process of producing tetrafluorethane on a large scale constituted efforts toward actual reduction to practice, and thus were evidence of diligence. . .)." It is further noted that an inventor does not need to drop all other work and concentrate on a particular invention (see Bey et al. v. Kollonnitsch et al., 806 F.2d 1024, 231 USPQ (BNA) 967 (Fed. Cir. 1986)).

The language of the declaration by Mr. Janssen clearly describes the diligence by Mr. Janssen to reduce the claimed invention to practice. The Exhibits B-1 through B-9 are evidence supporting the diligence asserted by the Applicant. Such evidence of diligence must be considered in its entirety along with the language supporting diligence presented in the

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Declaration by Mr. Janssen. As shown, just as in Scott v. Koyama, Mr. Janssen engaged in all sorts of activities directed at installing the system (i.e., reducing the claimed invention to practice).

One cannot just bypass all the regulatory and site restrictions and proceed in installing a system as claimed without permission and approval by regulatory authorities. It takes time and effort to obtain such permissions and approvals. Thus, diligence must be considered in light of the circumstances surrounding the installation of a heat exchanger into a water main that carries water from a potable water source.

For example, as discussed in the Declaration by Mr. Janssen, from June, 2002 to November 27, 2002, Applicant had meetings and telephone conversations with officials from the Department of Health regarding approval of the use of a heat exchanger on a municipal water main. Such preparatory work preceded the receipt of approval to install the heat exchanger (see B-8 thru B-9). Without approval, installation could not have occurred. As such, this preparatory work was necessary to such installation and clearly evidence of diligence in reducing the invention to practice. The same applies to obtaining permission from a site at which the system is to be installed. Much preparatory time and effort goes into obtaining such permission.

Further, and as clearly shown in the Exhibits and described by Mr. Janssen in the declaration, a manufacturer for the heat exchanger and other parts of the system needed to be found (see Exhibit B-1 and B-11), a site had to be found at which to install the system (see Exhibits B-2 through B-5, and also B-6 and B-7) (not an easy task to get permission), and approval from regulatory agencies needed to be obtained (see Exhibits B-8 and B-9). All of the Exhibits evidence the diligence in attempting to reduce the claimed invention to practice. Per the Declaration, the relationship of the claimed invention to the evidentiary documents is clearly provided (e.g., Exhibits B-2 through B-5, and also B-6 and B-7, evidence the activities related to finding a site to implement the system).

As such, contrary to the Examiner's assertion that nothing in the acts of diligence described in the declaration appear directly related to the invention claimed, each of such

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Exhibits show activities directed at installing a system as claimed. In view thereof, diligence from the conception of the invention prior to the effective date of the JP 2002 30717 reference to late November 2002 has been established.

In view of the above discussion, it is respectfully submitted that the Declaration of Prior Invention made by Mr. Janssen overcomes the JP 2002 30717 reference and as such this reference cannot be used as a reference against the patentability of the claimed invention.

SUPPORT IN PROVISIONAL APPLICATION

The Examiner's comments on lack of support for the pending claims is acknowledged. The claims have been amended to provide claims supported in the provisional application filed 27 November 2002.

The 35 U.S.C. §103 Rejection

The Examiner has made several rejections under 35 U.S.C. 103(a).

Claims 1-4, 6-8, 13-15, and 17-18 were rejected as being unpatentable over the combined teachings of Bardenheier (U.S. Patent 4,782,888), JP2002-30717, and any one of applicant's admission (May 15, 2007 response, page 4 of 5, section entitled "Second Matter), that the prior art GFX heat exchanger has a wraparound tube with a flattened side wall satisfying all of the limitations of original claim 9, Clancy (U.S. Patent 2,364,130), JP88730 (Figure 3) or JP9-229574 (Figs. 3-5). Applicant respectfully traverses the Examiner's rejection.

Claims 5, 16, 28-31, and 36 were rejected as being unpatentable over the prior art discussed immediately above (Bardenheier/JP '717/GFX et), as applied to claims 4 and 15 above, and further in view of FR 2381869 and Sherman. Applicant respectfully traverses the Examiner's rejection.

Claims 1-4, 6-8, 13-15, and 17-18 were rejected as being unpatentable over the combined teachings of Theil (DE 2930484) and applicant's admission (May 15, 2007 response, page 4 of 5, section entitled "Second Matter") that the prior art GFX Model G2-12 heat exchanger has a

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wraparound tube with a flattened side wall satisfying all of the limitations of original claim 9 and optionally Bardenheier (U.S. Patent 4,782,888) as a teaching reference. Applicant respectfully traverses the Examiner's rejection. Further, and in particular, as discussed herein, Applicant specifically traverses that the GFX Model G2-12 when used as described in Exhibit E-2 is prior art to the present invention).

Claims 5, 16, 28-31 and 36 were rejected as being unpatentable over the prior art (Theil/GFX G2-12/Bardenheier), as applied to claims 4 and 15 above, and further in view of FR 2381869 and Sherman. Applicant respectfully traverses the Examiner's rejection. Further, and in particular, as discussed herein, Applicant specifically traverses that the GFX Model G2-12 when used as described in Exhibit E-2 is prior art to the present invention).

Claims 1-4, 6-8, 13-15, and 17-18 were rejected as being unpatentable over the combined teachings of Bardenheier (U.S. Patent 4,782,888), Exhibit E-2 (showing the GFX Model G2-12 installed in a water main) and any one of applicant's new admission (May 15, 2007 response, page 4 of 5, section entitled "Second Matter") that prior art GFX heat exchanger has a wraparound tube with a flattened side wall satisfying all of the limitations of original claim 9, Clancy (U.S. Patent 2,364,130), JP 88730 (Fig. 3) or JP 9-229574 (Figs. 3-5). Applicant respectfully traverses the Examiner's rejection. Further, and in particular, as discussed herein, Applicant specifically traverses that the GFX Model G2-12 when used as described in Exhibit E-2 is prior art to the present invention).

Claims 5, 16, 28-31 and 36 were rejected as being unpatentable over the prior art discussed immediately above (Bardenheier/GFX Model G2-12/GFX admission etc), as applied to claims 4 and 15 immediately above, and further in view of FR 2381869 and Sherman. Applicant respectfully traverses the Examiner's rejection. Further, and in particular, as discussed herein, Applicant specifically traverses that the GFX Model G2-12 when used as described in Exhibit E-2 is prior art to the present invention).

Rejection of claims 1, 14 and 28

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First, Applicant respectfully traverses the Examiner's rejections and any allegations with respect to such references cited and applied to the present invention, as well as allegations with respect to any of the declarations provided in the above-identified matter. Applicant has previously provided a "DECLARATION (REVISED) OF PRIOR INVENTION TO OVERCOME CITED PATENT UNDER 37 C.F.R. §1.131." It is now acknowledged that the Examiner considers the evidence sufficient for establishing conception of the present invention prior to the effective date of the JP 2002-30717 reference (i.e., the publication date of 31 January 2002) and it is submitted by the Applicant that there was due diligence from prior to the effective reference date (i.e., the publication date of 31 January 2002) to the filing date (i.e., 27 November 2002) of the provisional application Serial No. 60/429,160 (e.g., constructive reduction to practice) to which the present application claims priority.

As such, it continues to be maintained that the JP 2002-30717 reference is removed as a reference against the rejected claims. As all of the independent claims 1, 14, and 28 have been rejected using the JP 2002-30717 reference, such claims are not obvious in view of combinations of cited references that include JP 2002-30717. It is respectfully requested that such rejections be withdrawn.

Secondly, however, even if the Examiner inappropriately continues to maintain that the Declaration submitted does not render the JP 2002-30717 reference removed as against the rejected claims, the present invention is not obvious over the combination of references for at least the following reasons, including the lack of a reasonable expectation of success, and further by reason of secondary considerations as described herein.

Non-obviousness of Claims 1, 14, and 28

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to

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combine reference teachings. Second, there must be a reasonable expectation of success.

Finally, the prior art references must teach or suggest all the claim limitations. *See* M.P.E.P. § 2143.

Further, as indicated in MPEP 2141: "The Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), stated:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy. . .

This is not to say, however, that there will not be difficulties in applying the nonobviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference as negligence and scienter, and should be amenable to a case-by-case development. We believe that strict observance of the requirements laid down here will result in that uniformity and definitiveness which Congress called for in the 1952 Act.

. . . Office policy is to follow *Graham v. John Deere Co.* in the consideration and determination of obviousness under 35 U.S.C. 103. As quoted above, the four factual inquiries enunciated therein as a background for determining obviousness are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

. . . Objective evidence or secondary considerations such as unexpected results, commercial success, long-felt need, failure of others, copying by others, licensing, and skepticism of experts are relevant to the issue of obviousness and must be considered in every case in which they are present. When evidence of any of these secondary considerations is submitted, the examiner must

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evaluate the evidence. The weight to be accorded to the evidence depends on the individual factual circumstances of each case. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987). The ultimate determination on patentability is made on the entire record. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)."

Still further, as recited in MPEP 716.06:

Another form of secondary evidence which may be presented by applicants during prosecution of an application, but which is more often presented during litigation, is evidence that competitors in the marketplace are copying the invention instead of using the prior art. However, more than the mere fact of copying is necessary to make that action significant because copying may be attributable to other factors such as a lack of concern for patent property or contempt for the patentees ability to enforce the patent. *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985). Evidence of copying was persuasive of nonobviousness when an alleged infringer tried for a substantial length of time to design a product or process similar to the claimed invention, but failed and then copied the claimed invention instead. *Dow Chem. Co. v. American Cyanamid Co.*, 837 F.2d 469, 2 USPQ2d 1350 (Fed. Cir. 1987). Alleged copying is not persuasive of nonobviousness when the copy is not identical to the claimed product, and the other manufacturer had not expended great effort to develop its own solution. *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 227 USPQ 766 (Fed. Cir. 1985). See also *Vandenberg v. Dairy Equipment Co.*, 740 F.2d 1560, 1568, 224 USPQ 195, 199 (Fed. Cir. 1984) (evidence of copying not found persuasive of nonobviousness) and *Panduit Corp. v. Dennison Manufacturing Co.*, 774 F.2d 1082, 1098-99, 227 USPQ 337, 348, 349 (Fed. Cir. 1985), *vacated on other grounds*, 475 U.S. 809, 229 USPQ 478 (1986), *on remand*, 810 F.2d 1561, 1 USPQ2d 1593 (Fed. Cir. 1987) (evidence of copying found persuasive of nonobviousness where admitted infringer failed to satisfactorily produce a solution after 10 years of effort and expense).

Lack of Reasonable Expectation of Success

There is no reasonable expectation of success in the combination of the cited references in each of the Examiner's rejections. For example, JP 2002-30717 describes a heat exchanger that is used with a waste pipe. Bardenheier does not even describe any construction of a heat exchanger, although it does indicate that the nondescript heat exchanger can be used with a

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municipal water main. Thiel appears to describe the use of a heat exchanger with a supply line. Yet further, Clancy (U.S. Patent No. 2,364, 130) describes a heat exchange apparatus having a somewhat flattened coil for use in a waste heat heater or boiler (see column 1), JP 88730 (Fig. 3) shows a cooling pipe having a portion that is flat wrapped around an Exhaust Gas Recirculation pipe, JP 9-229574 (Figs. 3-5) describes a flattened tube in which coolant passes, and the prior art GFX heat exchanger has a wrap around tube with a flattened side wall.

However, none of the references alone show a fluid source conduit configured to replace a section of existing conduit that is in a flooded state with a heat transfer pipe wrapped around a portion thereof as described in the pending claims. The Examiner alleges that it would be obvious to one skilled in the art to use one or more of the wrap around heat exchangers in a configuration like that described in, for example, Bardenheier.

However, what is obvious is that no one, until the invention and disclosure thereof (e.g., confidential and/or non-confidential) by Applicant, recognized that use of a heat exchanger, like the GFX heat exchanger configured to replace a section of an existing conduit that is in a flooded state, would be successful in accomplishing sufficient heat transfer to make a system such as that described in claim 1 effective.

There was no reasonable expectation of success in substituting a heat exchanger that functions in a waste environment into a flooded state situation until recognized by Applicant. For example, Bardenheier recognizes that "utilities that deliver domestic water have large quantities of liquid with excellent low grade thermal energy exchange potential" (column 1, lines 43-45) and that a "reason for not tapping this potential is the significant risk of hazard to the public health and safety by uncontrolled access to a domestic water supply" (column 1, lines 47-48).

However, Bardenheier fails to find, define, or describe any heat exchanger that would solve the problem and/or operate in a water main with a reasonable expectation of success. Not until Applicant's invention and disclosure thereof has anyone described a system (i.e., including a heat pump) using a suitable heat exchanger as described in the pending claims that would provide

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successful heat exchange in a flooded state situation.

This is clearly evidenced by the copying of Applicant's invention by the maker of the GFX heat exchanger (i.e., that has been described as early as at least October of 1986 in the GFX Patent No. 4,619,311 and which was used in a waste water gravity type application) as described herein.

Copying by One Skilled in the Art

As indicated above, copying is a form of secondary evidence which may be presented by applicant during prosecution of an application that must be considered by the Examiner (e.g., evidence that competitors in the marketplace are copying the invention instead of using the prior art). In the present case, copying has occurred by those skilled in the art (hereinafter referred to as "GFX") only after learning of Applicant's invention. Evidence of such copying is presented in a Declaration by Mr. Janssen attached hereto as Attachment B.

As shown by Declaration, only after learning of the Applicant's invention, did GFX update its website to include an embodiment wherein a GFX type heat exchanger was inserted into a city water main to extract thermal energy therefrom. However, also as indicated above, "more than the mere fact of copying is necessary to make that action significant because copying may be attributable to other factors such as a lack of concern for patent property or contempt for the patentees ability to enforce the patent. *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985). Evidence of copying was persuasive of nonobviousness when an alleged infringer tried for a substantial length of time to design a product or process similar to the claimed invention, but failed and then copied the claimed invention instead. *Dow Chem. Co. v. American Cyanamid Co.*, 837 F.2d 469, 2 USPQ2d 1350 (Fed. Cir. 1987)."

In the present case, GFX obtained a patent on a GFX heat exchanger for use in waste water applications in 1986 as evidenced by the Exhibit A-3 of the Declaration (Revised) of Prior Invention to Overcome Cited Patent Under 37 CFR 1.131 by Mr. Janssen. For years, as

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mentioned in the Declaration attached hereto by Mr. Janssen, the only heat exchanger used and/or tested in city water mains were heat exchangers that removed water from the water main, processed or otherwise manipulated that water, and then returned the water to the main. Not until the invention by the Applicant (i.e., well over 10 years after the GFX Patent No. 4,619,311 issued in 1986), and disclosure of same to personnel associated with the GFX patent, did GFX design a system where a GFX type heat exchanger is used in a city water main. Other designs were known as mentioned above that could have been used. However, instead, GFX copied the claimed invention.

Such a substantial length of time in failing to recognize use of its own GFX technology for use with conduits that are in a flooded state (e.g., city water main) is clearly an indication of the nonobviousness of the claimed invention. Further, the failure to recognize such use for a substantially long period of time (e.g., prior to 1986) by those associated with GFX who are clearly skilled in the art is also clearly an indication of the nonobviousness of the claimed invention. See *Panduit Corp. v. Dennison Manufacturing Co.*, 774 F.2d 1082, 1098-99, 227 USPQ 337, 348, 349 (Fed. Cir. 1985), *vacated on other grounds*, 475 U.S. 809, 229 USPQ 478 (1986), *on remand*, 810 F.2d 1561, 1 USPQ2d 1593 (Fed. Cir. 1987) (evidence of copying found persuasive of nonobviousness where admitted infringer failed to satisfactorily produce a solution after 10 years of effort and expense).

Still further, as set forth in the Declaration by Mr. Janssen attached hereto, the copying of the claimed invention occurred very soon after Mr. Janssen provided GFX with the information concerning the present invention. This also is indicia of non-obviousness (see *Asahi/America Inc. v. MFRI Inc.*, 36 F. Supp. 2d 618,622, 51 USPQ2d 1154 (S.D. N.Y. 1999) ("the Court's conclusion as to the non-obviousness of plaintiff's invention is corroborated . . . by the fact that it was copied by defendants as soon as they were presented with it.")).

For at least the above reasons, original claims 1, 14, and 28 are not obvious in view of the cited references.

Yet further, claims 2-8, 13, 15-18, 29-31, and 36 respectively depend on one of the

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independent claims, either directly or indirectly. Therefore, they include the limitations of the respective independent claim upon which they depend. The other references cited in the rejection of such dependent claims do not cure the deficiencies of the primary references cited against the independent claims. As such, these claims are also not obvious over the references cited for the same reasons as provided above. However, further, the citation of such numerous references to make obvious one or more of such dependent claims of the present invention is clearly hindsight reconstruction of Applicant's invention.

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It is respectfully submitted that the pending claims are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicant's Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted

By

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MJG/SJT

CERTIFICATE UNDER 37 CFR §1.8:

The undersigned hereby certifies that the Transmittal Letter and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 31 day of October, 2007, at 2:30pm (Central Time).

By: Sandy TruehartName: Sandy Truehart